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09/23/2003

Nurettin Burcak Beser

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EXAMINER

SCOTT, RANDY A

ART UNIT

PAPER NUMBER

2109

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/667,978

Applicant(s)

BESER, NURETTIN BURCAK

Examiner

Randy Scott

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/23/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This Office Action is in response to the Application filed September 23, 2003.

Claim Objections

5. Claims 1, 3, 4, 6-7, 9-11, 13-14, 18-19, 24-25, 30-31 and 34 are objected to because of the following informalities:

On line 4 of claim 1 the term "upstream resources" should be --said upstream resources--.

On line 6 of claim 1 the term "upstream resources" should be --said upstream resources--.

On line 1 of claim 3 the term "the allocating upstream resources" should be --allocating said upstream resources --.

On line 1 of claim 4 the term "the allocating upstream resources" should be --allocating said upstream resources --.

On line 2 of claim 6 the term "allocation of the upstream resources" should be -- said allocation of upstream resources--.

On line 2 of claim 7 the term "allocated upstream resources" should be -- said allocated upstream resources --.

On line 1 of claim 9 the term "the processing unit" should be --wherein the processing unit --.

On line 1 of claim 10 the term "the processing unit" should be --wherein the processing unit --.

On line 1 of claim 11 the term "the processing unit" should be --wherein the processing unit --.

On line 1 of claim 13 the term "the processing unit" should be --wherein the processing unit --.

On line 3 of claim 13 the term "a first group" should be -- the first group--.

On line 3 of claim 13 the term "allocation of upstream resources" should be -- the allocation of upstream resources--.

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On line 1 of claim 14 the term "the processing unit" should be --wherein the processing unit --.

On line 3 of claim 14 the term "allocated upstream resources" should be --said allocated upstream resources--.

On line 3 of claim 18 the term "each cable modem" should be --each of said cable modems--.

On line 1 of claim 19 the term "wherein grouping the plurality of cable modems" should be --wherein the grouping of the plurality of cable modems--.

On line 2 of claim 19 the term "grouping" should be --said grouping--.

On line 2 of claim 24 the term "the instruction" should be --the instructions --.

On line 1 of claim 25 the term "a plurality of modems" should be --a plurality of said modems --.

On line 3 of claim 30 the term "other other groups" should be --other said groups--.

On line 2 of claim 31 the term "allocated upstream resources" should be --allocated said upstream resources--.

On line 4 of claim 34 the term "upstream resources" should be --said upstream resources--.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 32-33 are rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter.

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In claim 32, the limitations of a first data comprising a plurality of addresses associated with corresponding cable modems and second data comprising order data specifying an order in which upstream resources are allocated to the cable modems are recited. The specific limitation is non-statutory because the applicant failed to specify a correlating result as to any tangible result occurring within the data structure. The above claim lacks tangible output because the claim fails to mention any real world use occurring within the data structure, and only refers to the type of data contained within data structure.

Claim 33 fails to resolve the deficiencies of claim 32 because there isn't any added language in either dependent claim that includes a limitation that would further limit claim 32 into producing a tangible output or that would cause claim 32 to produce a real world result because the added limitation only further pertains to the type of data that is stored within the data structure.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless - -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 25 is rejected under 35 USC 102 (b) as being anticipated by Unger et al (US Patent # 6,230,326).

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In reference to claim 25 Unger et al teach a method of initializing cable modems subsequent to a cable modem termination system re-boot (see spec, sec. 2, lines 25-37 which implies this limitation because a group of cable modems are initialized within the invention), a limitation for receiving initial upstream channel requests from a plurality of modems (see spec, sec. 1, lines 10-19, which implies this limitation because requests on an upstream channel are sent from the cable modems to the CMTS), a limitation for retrieving first data from each of the requests (see spec, sec. 1, lines 40-53, which implies this limitation because an initial maintenance is sent within an initialization request from a cable modem), and determining an order in which to assign upstream channels to each of the plurality of modems based on the retrieved first data (see spec, sec. 1, lines 32 – 53, which implies this limitation because synchronization of each cable modem is allocated from the CMTS specifying the order in which the modems are to be initialized).

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless - -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claim 1 is rejected under 35 USC 102 (e) as being anticipated by Park (Pub # US 2002/0062486).

Park teaches a method including the limitations of grouping the plurality of cable modems into a plurality of groups (see abstract, which teaches grouping a plurality of cable

modems into a plurality of groups because cable modems are grouped by certain units), ordering allocation of upstream resources to each of the plurality of cable modems based on the group to which each of the cable modems belongs (see abstract, which teaches this limitation because upstream channel descriptors are transmitted to a cable modem and selected by a cable modem on the basis of the upstream channel group information), and allocating upstream resources to each of the cable modems based on the ordering (see abstract, which teaches this limitation because upstream channel descriptors are transmitted to a cable modem based on the grouping).

With respect to claims 2 Park teaches a method including a limitation wherein grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which teaches this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards).

With respect to claim 3 Park teaches a method including a limitation wherein the allocation of upstream resources comprises: assigning initialization channels of the upstream resources to each of the plurality of cable modems based on the grouping of the plurality of cable modems (see e.g. [0030], which teaches this limitation because the process of initializing modems embedded in the network includes receiving upstream channel descriptors for each modem).

12. Claim 15 is rejected under 35 USC 102 (e) as being anticipated by Bernath et al (Pub # US 2001/0038647).

In reference to claim 15 Bernath et al teach a method including the limitation for receiving upstream resource requests from a plurality of cable modems (see e.g. [0062], which

teaches this limitation because a user modem transmits messages to the CMTS on an upstream channel), each of the resource requests comprising an address associated with a cable modem of the plurality of cable modems (see e.g. [0015], which teaches this limitation because the head end, also known as a CMTS, transmits a unique address for each cable modem), determining an order that the upstream resources are to be assigned to each of the plurality of cable modems based on the address of each of the resource requests (see e.g. [0015] and [0016], which teaches this limitation because the reception of data by user modems is determined by an addressing scheme and time slots for the upstream messages are determined based on the addressing scheme), and allocating the upstream resources based on the determined order (see e.g. [0016], which teaches this limitation because time slots are allocated for upstream messages based on the address for each cable modem).

13. Claims 32 and 33 are rejected under 35 USC 102 (e) as being anticipated by Gummalla et al (Pat # US 6,614,799).

With respect to claim 32 Gummalla et al teach a method including the limitations of a first data comprising a plurality of addresses associated with corresponding cable modems (see spec, sec. 5, lines 20-45, which teaches this limitation because a MAC layer is embedded within the invention to store the MAC addresses of the cable modems on the system), and second data comprising order data specifying an order in which upstream resources are allocated to the cable modems (see spec, sec. 6, lines 15-40, which teaches this limitation because mini-slot allocation information is embedded within the invention for the scheduling of upstream channels for each cable modem).

With respect to claim 33 Gummalla et al teach a method including the limitations for third data comprising data indicating upstream channels of the upstream resources that are to be allocated to the cable modems (see spec, sec. 6, lines 41-55, which teaches this limitation because the invention comprises a reservation sub-channel that is comprised of mini-slots allocated to the cable modems in the network).

14. Claim 34 is rejected under 35 USC 102 (e) as being anticipated by Zang et al (Pat # US 7,068,712).

With respect to claim 34 Zang et al teach a method including the limitations of a means for grouping the plurality of cable modems into a plurality of groups (see spec, sec. 3, lines 43-55, which teaches this limitation because multiple groups of cable modems are embedded within the invention), and means for identifying an order, subsequent to the CMTS re-boot, that upstream resources are to be allocated to each of the plurality of cable modems based on the group to which each of the cable modems belongs (see spec, sec. 17, lines 1-10, which teaches this limitation because the servicing of upstream channels for each group assigned to a protective CMTS begins upon a CMTS reboot or when the CMTS come online).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102

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of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

10. Claim 8 is rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712).

In reference to claim 8 Park teaches a method including a limitation for allocating upstream resources to each of the cable modems based on the ordering and grouping a plurality of cable modems into a plurality of groups (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS.

The general concept of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded

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within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

10. Claims 4 & 11 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Eng (Pub # US 2003/0035442).

In reference to claim 4 Park teaches a method including a limitation for allocating upstream resources to each of the cable modems based on the ordering (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a processing unit configured to execute the instructions in memory to re-boot the CMTS, and assigning registration channels of the upstream resources to each of the plurality of cable modems based on the grouping of the cable modems.

The general concept of a limitation for providing a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store

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synchronization data about the groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept of the limitation for assigning registration channels of the upstream resources to each of the plurality of cable modems based on the grouping of the cable modems is well known in the art as illustrated by Eng, which teach a method including the limitation for assigning registration channels of the upstream resources to each of the plurality of cable modems based on the grouping of the cable modems (see claim 5, lines 1-15, which implies this limitation because new registrations from each cable modem is accepted by a MAC domain identifier at an upstream channel in order to define a circuit or channel of the upstream resources within each channel).

In addition, it would have also been obvious for one of ordinary skill in the art at the time of the invention to modify Park and to include the use of assigning registration channels of the upstream resources to each of the plurality of cable modems based on the grouping of the cable modems in order to provide for an effective full service cable modem termination system, as implied in claim 1, lines 1-10 of Eng.

11. Claims 5 & 12 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Fijolek et al (Pat # US 7,107,326).

In reference to claim 5 Park teaches a method including a limitation for allocating upstream resources to each of the cable modems based on the ordering (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a processing unit configured to execute the instructions in memory to re-boot the CMTS, and the limitation wherein a first group of the plurality of groups comprises message-transferring agents.

The general concept of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions

and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept wherein a first group of the plurality of groups comprises message transferring agents is well known in the art as illustrated by Fijolek et al, which teach a method including the limitation for wherein a first group of the plurality of groups comprises message transferring agents (see spec, sec. 11, lines 8-16, which implies this limitation because the grouped cable modems in the cable network are able to receive messages from the cable modem termination system through a MAC management structure).

It would have also been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a first group of the plurality of groups comprises message transferring agents in order to provide for an effective MAC communication and device initialization and configuration, as implied in claim 4, lines 1-19 of Fijolek et al.

12. Claims 6 and 13 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Leano et al (Pat # US 6,453,472).

In reference to claim 6 Park teaches a method including a limitation for grouping the plurality of cable modems into a plurality of groups (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a processing unit configured to execute the instructions in memory to re-boot

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the CMTS, and designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups.

The general concept of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept of designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups is well known in the art as illustrated by Leano et al, which teach a method including the limitation for designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups (see spec, sec. 9, lines 49-60, which

implies this limitation because a first group of cable modems are associated with an upstream channel before the remainder of the groups).

It would have also been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups in order to improve the priority of cable modem implementations, as implied in sec. 9, lines 24-39 of Leano et al.

13. Claims 7 & 14 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Leano et al (Pat # US 6,453,472).

In reference to claim 7 Park teaches a method including a limitation for grouping the plurality of cable modems into a plurality of groups (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a processing unit configured to execute the instructions in memory to re-boot the CMTS, and designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group.

The general concept of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the

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groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept of designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group is well known in the art as illustrated by Leano et al, which teach a method including the limitation for designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group (see spec, sec. 9, lines 49-60, which implies this limitation because a second group of cable modems are associated with a second upstream channel after the first group of modems).

It would have also been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group in order to improve the priority of cable modem implementations, as implied in sec. 9, lines 24-39 of Leano et al.

14. Claims 9 and 10 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712).

In reference to claims 9 and 10 Park teaches a method including the limitations wherein grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which implies this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards) and wherein the allocation of upstream resources comprises: assigning initialization channels of the upstream resources to each of the plurality of cable modems based on the grouping of the plurality of cable modems (see e.g. [0030], which implies this limitation because the process of initializing modems embedded in the network includes receiving upstream channel descriptors for each modem).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS.

The general concept of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), a processing unit configured to execute the instructions in memory (see spec, sec. 4, lines 32-47, which implies this limitation because a processor is embedded

within the system to carry out the processes of the invention including rebooting the CMTS, as shown in sec. 17, lines 1-3).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

15. Claims 16-19 are rejected under 35 USC 103 as being unpatentable over Bernath et al (Pub # US 2001/0038647) in view of Park (Pub # US 2002/0062486).

In reference to claims 16-19 Bernath et al teach a method including the limitation for receiving initial upstream channel requests from a plurality of cable modems (see e.g. [0062], as stated above).

Bernath et al teach all the limitations as disclosed above except for wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, wherein ordering the allocating of upstream resources comprises allocation the upstream resources to each of the plurality of cable modems, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems.

The general concept wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems are well known in the art as illustrated by Park, which teaches a method including the

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limitations of wherein the first data comprises a MAC address (see e.g. [0032], which implies this limitation because cable modems receiving upstream information from the CMTS receive MAC management messages from the CMTS), grouping the plurality of cable modems into a plurality of groups (see abstract, which implies grouping a plurality of cable modems into a plurality of groups because cable modems are grouped by certain units), wherein ordering the allocation of upstream resources comprises allocating the upstream resources to each of the plurality of cable modems (see e.g. [0026], which implies this limitation because upstream channel descriptors are allocated to cable modems that are grouped together, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which implies this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Bernath et al to include the use of a first data comprising a medium access control address, grouping the plurality of modems into a plurality of groups, wherein ordering the allocation of upstream resources comprises allocating the upstream resources to each of the plurality of cable modems, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems in order to improve upon the synchronization of modems in a network, as implied in e.g. [0026] of Park.

16. Claim 20 is rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Bernath et al (Pub # US 2001/0038647).

In reference to claim 20 Park teaches a method including a limitation for allocating upstream resources to each of the cable modems based on the ordering and grouping a plurality of cable modems into a plurality of groups (see abstract, as stated above).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a communication interface configured to receive upstream resource requests from a plurality of cable modems, and the limitation wherein each resource request comprising an address associated with a cable modem of the plurality of cable modems.

The general concept of a memory configured to store instructions and a communication interface configured to receive upstream resource requests from a plurality of cable modems is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), and a communication interface configured to receive upstream resource requests from a plurality of cable modems (see spec, sec. 5, lines 12-18, which implies this limitation because a request is sent on an upstream channel to the CMTS).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions and a processing unit configured to execute the instructions in memory to re-boot the CMTS in

order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept wherein each resource request comprising an address associated with a cable modem of the plurality of cable modems is well known in the art as illustrated by Bernath et al, which teach a method including the limitation for each of the resource requests comprising an address associated with a cable modem of the plurality of cable modems (see e.g. [0015], as stated above).

It would have also been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of each resource request comprising an address associated with a cable modem of the plurality of cable modems in order to improve upon the allocation of resources in a CMTS, as implied in e.g. [0015] of Bernath et al.

15. Claims 21-24 are rejected under 35 USC 103 as being unpatentable over Park (Pub # US 2002/0062486) in view of Zang et al (US Patent # 7,068,712) and Bernath et al (Pub # US 2001/0038647).

In reference to claims 21-24, Park teaches a method including a limitation for allocating upstream resources to each of the cable modems based on the ordering and grouping a plurality of cable modems into a plurality of groups (see abstract, as stated above), wherein the first data comprises a MAC address (see e.g. [0032], which implies this limitation because cable modems receiving upstream information from the CMTS receive MAC management messages from the CMTS), grouping the plurality of cable modems into a plurality of groups (see abstract, which

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implies grouping a plurality of cable modems into a plurality of groups because cable modems are grouped by certain units), wherein ordering the allocation of upstream resources comprises allocating the upstream resources to each of the plurality of cable modems (see e.g. [0026], which implies this limitation because upstream channel descriptors are allocated to cable modems that are grouped together), and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which implies this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards).

Park teaches all the limitations as disclosed above except for a memory configured to store instructions, a communication interface configured to receive upstream resource requests from a plurality of cable modems, and wherein each resource request comprising an address associated with a cable modem of the plurality of cable modems.

The general concept of a memory configured to store instructions and a communication interface configured to receive upstream resource requests from a plurality of cable modems is well known in the art as illustrated by Zang et al, which teach a method including the limitation for a memory configured to store instructions (see spec, sec. 4, lines 32-47, which implies this limitation because a memory is embedded within the invention to store synchronization data about the groups of cable modems), and a communication interface configured to receive upstream resource requests from a plurality of cable modems (see spec, sec. 5, lines 12-18, which implies this limitation because a request is sent on an upstream channel to the CMTS).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of a memory configured to store instructions

and a processing unit configured to execute the instructions in memory to re-boot the CMTS in order to improve upon the synchronization of devices in a CMTS, as implied in sec. 3, lines 6-17 of Zang et al.

The general concept wherein each resource request comprising an address associated with a cable modem of the plurality of cable modems is well known in the art as illustrated by Bernath et al, which teach a method including the limitation for each of the resource requests comprising an address associated with a cable modem of the plurality of cable modems (see e.g. [0015], as stated above).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Park to include the limitation for the use of each resource request comprising an address associated with a cable modem of the plurality of cable modems in order to improve upon the allocation of resources in a CMTS, as implied in e.g. [0015] of Bernath et al.

17. Claims 26-28 are rejected under 35 USC 103 as being unpatentable over Unger et al (US Patent # 6,230,326) in view of Park (Pub # US 2002/0062486).

In reference to claims 26-28 Unger et al teach a method including the limitation for receiving initial upstream channel requests from a plurality of modems (see spec, sec. 1, as stated above).

Unger et al teach all the limitations as disclosed above except for wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems.

The general concept wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems are well known in the art as illustrated by Park, which teaches a method including the limitations of wherein the first data comprises a MAC address (see e.g. [0032], which implies this limitation because cable modems receiving upstream information from the CMTS receive MAC management messages from the CMTS), grouping the plurality of cable modems into a plurality of groups (see abstract, which implies grouping a plurality of cable modems into a plurality of groups because cable modems are grouped by certain units), and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which implies this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Unger et al to include the use of a first data comprising a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems in order to improve upon the synchronization of modems in a network, as implied in e.g. [0026] of Park.

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16. Claims 29-31 are rejected under 35 USC 103 as being unpatentable over Unger et al (US Patent # 6,230,326) in view of Park (Pub # US 2002/0062486) and Leano et al (Pat # US 6,453,472).

In reference to claims 29-31 Unger et al teach a method including the limitation of retrieving first data from each of the requests (see spec, sec. 1, as stated above).

Unger et al teach all the limitations as disclosed above except for wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems, the limitation wherein a first group of the plurality of groups comprises message-transferring agents, designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups, and designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group.

The general concept wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems are well known in the art as illustrated by Park, which teaches a method including the limitations of wherein the first data comprises a MAC address (see e.g. [0032], which implies this limitation because cable modems receiving upstream information from the CMTS receive MAC management messages from the CMTS), grouping the plurality of cable modems into a plurality of groups (see abstract, which implies grouping a plurality of cable modems into a plurality of groups because cable modems are grouped by certain units), and grouping the

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plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems (see e.g. [0027], which implies this limitation because the cable modems are grouped by certain units according to a distance from the CMTS, regional characteristics, or various standards).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Unger to include the limitation for wherein the first data comprises a medium access control address, grouping the plurality of modems into a plurality of groups, and grouping the plurality of cable modems into the plurality of groups based on quality of service requirements of each of the cable modems to control initialization for a plurality of grouped cable modems, as implied in e.g. [0027] of Park.

The general concept of designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups and designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group are well known in the art as illustrated by Leano et al, which teach a method including the limitation for designating a first group of the plurality of groups as requiring allocation of the upstream resources before other groups of the plurality of groups (see spec, sec. 9, lines 49-60, which implies this limitation because a first group of cable modems are associated with an upstream channel before the remainder of the groups) and a method including the limitation for designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group (see spec, sec. 9, lines 49-60, which implies this limitation because a second group of cable modems are associated with a second upstream channel after the first group of modems).

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It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Unger to include the limitation for the use of designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group and designating a second group of the plurality of groups as being allocated upstream resources subsequent to the first group in order to improve the priority of cable modem implementations, as implied in sec. 9, lines 24-39 of Leano et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randy Scott whose telephone number is 571-270-1598. The examiner can normally be reached on Mon - Thurs. 7:30-5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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R.A.S.

26 February 2007

FRANTZ JULES
SUPERVISORY PATENT EXAMINER

A handwritten signature in dark ink, appearing to read 'Frantz Jules', is written over a horizontal line. The signature is stylized with a large, sweeping initial 'F' and a cursive 'J'.